

Amendments to the Claims

1. (currently amended): A method of selecting polymerization catalysts from a multiplicity of polymerization catalysts on the basis of their catalytic properties ~~which comprises~~ comprising the following steps:
 - (a) ~~[[-]]~~ in a pretreatment step, converting in which a multiplicity of catalyst precursors or catalyst supports ~~are converted~~ in parallel into polymerization catalysts in an array of reactors, where the pretreatment comprises at least one thermal treatment step at from 250 to 1200°C~~[[,]]~~;
 - (b) ~~[[-]]~~ in a polymerization step, converting in which at least one starting material ~~is converted with the aid of the respective polymerization catalysts under prescribed polymerization conditions~~ into at least one polymer product~~[[,]]~~ with the aid of the respective polymerization catalysts; and
 - (c) ~~[[-]]~~ in an analysis step, analyzing of ~~at least one of the composition and chosen properties of the polymer product or products formed in step (b). in respect of its composition and/or chosen properties.~~
2. (currently amended): The A-method as claimed in claim 1, wherein the polymerization step is carried out in parallel for the multiplicity of catalyst precursors or catalyst ~~catalysts~~ supports in the an array of reactors.
3. (currently amended): The A-method as claimed in claim 2, wherein the pretreatment step and the polymerization step are carried out in the same array of reactors.
4. (currently amended): The A-method as claimed in claim 2, wherein the conditions in at least one of the pretreatment step and ~~and/or~~ polymerization step in the respective reactors differ in at least one physical parameter.
5. (currently amended): The A-method as claimed in claim 1, any of the preceding claims, wherein the catalyst in the respective reactors differ in at least one chemical property.

6. (currently amended): The A-method as claimed in claim 1, any of the preceding claims,
wherein the polymerization catalyst is an inorganic, ~~in particular mineral~~ catalyst.
7. (currently amended) The A-method as claimed in claim 6, wherein the inorganic
catalyst is a Phillips catalyst.
8. (currently amended): The A-method as claimed in claim 1, any of the preceding claims,
wherein a feed stream comprising at least one monomer is fed continuously to the
respective reactors in at least one of ~~during~~ the pretreatment step and ~~and/or~~ the
polymerization step.
9. (currently amended): The A-method as claimed in claim 8, wherein, in at least one of
~~during~~ the pretreatment step and ~~and/or~~ the polymerization step, the a-feed stream is
passed through the respective reactor in such a way that a fluidized bed of catalyst
is produced.
10. (currently amended): The A-method as claimed in claim 1, any of the preceding
~~claims,~~ wherein the polymer product or products is selected from the group
consisting of polyethylene, polypropylene, poly-1-butene, ~~and~~ their copolymers and
~~and/or their~~ stereoisomers.
11. (currently amended): The A-method as claimed in claim 10, wherein the chosen
properties of the polymer product are selected ~~independently~~ from the group
consisting of the density, the molar mass distribution M_w/M_n and its moments, the
limiting viscosity in solution in accordance with ISO 1628, the melt flow rate in
accordance with DIN EN ISO 1133 and the proportion of comonomer.
12. (currently amended) The A-method as claimed in claim 1, any of the preceding
~~claims,~~ wherein the thermal treatment is carried out at from 350 to 1000°C, ~~in~~
~~particular from 400 to 925°C.~~
13. (currently amended): An array of parallel reactors for implementing a ~~the~~ process as
~~claimed in any of claims 1 to 11,~~

for selecting polymerization catalysts from a multiplicity of polymerization
catalysts on the basis of their catalytic properties comprising the following steps:

(i) in a pretreatment step, converting a multiplicity of catalyst precursors or catalyst supports in parallel into polymerization catalysts in an array of reactors, where the pretreatment comprises at least one thermal treatment step at from 250 to 1200°C;

(ii) in a polymerization step, converting at least one starting material into at least one polymer product with the aid of the respective polymerization catalysts; and

(iii) in an analysis step, analyzing at least one of the composition and chosen properties of the polymer product or products formed in step (b);

wherein each reactor in the array of parallel reactors has

- a) a housing (1) which can be sealed from the outside and has a lower part (3) which is provided with a bottom (10) for accommodating a bed of a catalyst and an upper part (2) which can be connected in a sealed manner to the lower part (3),
- b) an inlet (4) for introducing a feed stream into the reactor with an inlet opening (8) which is directed into the interior of the reactor and is arranged so that it projects into the catalyst bed and the feed stream allows fluidization of the bed to form a fluidized bed (9) of catalyst, with no internals which restrict the extent of the fluidized bed are present within the housing (1), and
- c) an outlet (5) for discharge of the outflow stream from the reactor.

14. (currently amended): The ~~An~~ array of reactors as claimed in claim 13, wherein the inlet is configured as a capillary (4).

15. (currently amended): The ~~An~~ array of reactors as claimed in claim 14, wherein the capillary (4) is sealed into the upper part (2).

16. (currently amended): The ~~An~~ array of reactors as claimed in claim 13, any of claims 13 to 15, wherein each reactor has a first temperature control unit which serves to control the temperature of the respective reactor and comprises at least one of a heating and/or cooling element (6) located at an outer surface of the lower part (5) and a temperature sensor (7) for measuring the temperature in the fluidized bed (9).

17. (currently amended): ~~The~~ An array of reactors as claimed in claim 13 ~~any of claims 13 to 16~~ having a second temperature control unit which serves to control the temperature of the feed stream and is thermally connected to the inlet (4) outside the reactors.
18. (currently amended): ~~The~~ An array of reactors as claimed in claim 13, ~~any of claims 13 to 17~~, wherein the reactors are made of fused silica or stainless steel.
19. (new): The method as claimed in claim 1, wherein the polymerization catalyst is a mineral catalyst.
20. (new) The method as claimed in claim 1, wherein the thermal treatment is carried out at from 400 to 925°C.